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EXAMINER
JIANG, YONG HANG

ART UNIT	PAPER NUMBER
2612	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/538,564	Applicant(s) DAVIE ET AL.	
	Examiner Yong Hang Jiang	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on 8/31/2007 has been entered. Claims 1-21 are pending and amended.

Claim Objections

2. Claims 12-18 are objected to because of the following informalities: Claim 12 recites the limitation "after the transmitter arrangement stops receiving the signal from the tag" on the last two lines; as best understood by the examiner, the receiver arrangement is for receiving not the transmitter. Appropriate correction is required.

Claims 13-18 depend on claim 12; therefore they suffer the same deficiency.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by McDonald (2001/0040513)

Regarding claim 19, McDonald discloses a method of positioning a location of an object, the method comprising the steps of: sending a signal from a tag to a portable transceiver (via receiver 404 in tag reader 102 receives response signals from tags); converting the signal to an object-related signal (via processor 406 processing response signals); sending the object-related signal to a base station (via tag-reader 102 sends

information signal to network 117); determining the position of the portable transceiver sending the object-related signal (via determining what area the portable transceiver is in) and inherently associating the position of the object with the determined position of the portable transceiver after the portable transceiver stops receiving the signal from the tag. (See the Abstract and paragraphs 36, 50, and 51).

Regarding claim 20. McDonald discloses sending a first part of the object-related signal upon establishing a communication with the tag (via tag-reader 102 sends tag identification code to network 117); and sending a second part of the object related signal after terminating the communication with the tag (via tag-reader 102 sends tag reader identification code to network 117). (See paragraphs 36, 50, and 51)

Regarding claim 21. McDonald discloses the step of sending a signal from a tag to a portable transceiver is preceded by activating the tag with an activation signal from the portable transceiver via (transmitter 408 transmits an interrogation signal to tag 119 for activation). (See paragraphs 36, 50, and 51)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-2, 4, 6, 9, 11-12, 14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woolley et al. (US 5,892,441) and further in view of Garber et al. (US 6,232,870).

Regarding claim 1, Woolley discloses a system (See Figure 1) comprising: a first base station (via a workstation in operations center 13) for determining a location of an object based upon an object-related signal (via signal formed by unique identification of objects stored on asset tags 16); an object-attachable tag (via asset tag 16) and a portable transceiver (via monitoring device 15), comprising: a receiver arrangement (via receiver 300) for receiving a signal from the tag; a signal processor (via communications controller 272) for converting the signal into the object-related signal; and a transmitter arrangement (via transmitter 302) for sending the object-related signal to the first base station.

But Woolley fails to disclose the transmitter arrangement is for sending the object related signal to the first base station after the portable transceiver stops receiving the signal from the tag.

Garber teaches a radio frequency identification system with a reader and items with radio frequency identification tags attached. The reader can be docked or communicates wirelessly to communicate with a separate database to obtain real time information regarding items that have been scanned by the transceiver. (See the Abstract and Col. 16, lines 19-31)

From the teachings of Garber, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Woolley to include the transmitter arrangement is for sending the object related signal to the first base station after the portable transceiver stops receiving the signal from the tag in order to obtain real time information regarding the items when the signals are received by the reader.

Regarding claim 2, Woolley discloses the first base station (workstation) is coupled to a database (via workstation having database software to be used on a database). (See 28, lines 33-45).

Regarding claim 6, the combination of Woolley and Garber disclose the structural elements of the claimed invention but fail to disclose a further portable transceiver.

However, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the combination of Woolley and Garber to include a further portable transceiver to increase the number of available portable transceivers to provide easier monitoring and tracking of object-attachable tags when there is more than one person tracking, thereby increasing the efficiency of workers when they are tracking articles with object-attachable tags attached.

Regarding claim 11, Woolley discloses the base station (workstation linked to monitoring device 15, monitoring device used to locate items with tags) being arranged to track the location of an object responsive to the object-related signal from the portable transceiver. (See Col. 16, lines 17-20 and Col. 17, lines 3-9).

Regarding claim 12, Woolley discloses a portable transceiver (via monitoring device 15), comprising: a receiver arrangement (via receiver 300) for receiving a signal from the tag; a signal processor (via communications controller 272) for converting the signal into the object-related signal; and a transmitter arrangement (via transmitter 302) for sending the object-related signal to the first base station. (See Col. 25, lines 17-23 and Col. 26, lines 23-33).

But Woolley fails to disclose the transmitter arrangement is for sending the object related signal to a first base station after the receiver arrangement stops receiving the signal from the tag.

Garber teaches a radio frequency identification system with a reader and items with radio frequency identification tags attached. The reader can be docked or communicates wirelessly to communicate with a separate database to obtain real time information regarding items that have been scanned by the reader. (See the Abstract and Col. 16, lines 19-31)

From the teachings of Garber, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the portable transceiver of Woolley to include the transmitter arrangement is for sending the object related signal to a first base station after the receiver arrangement stops receiving the signal from the tag

Art Unit: 2612

in order to obtain real time information regarding items that have been scanned by the transceiver.

Regarding claims 4 and 14, the combination of Woolley and Garber disclose the transmitter arrangement is configured to only send the object-related signal to the first base station when the portable transceiver stops receiving the signal from the tag. (See Claims 1 and 12 above)

Regarding claims 9 and 16, the combination of Woolley and Garber disclose the structural elements of the claimed invention but fail to disclose the tag is a passive tag and a further transmitter arrangement for providing the tag with the activation signal.

However, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the combination of Woolley and Garber to include a passive tag to lower costs by not having a battery and further transmitter arrangement to transmit an activation signal to the object-attachable tag to improve the signal transmitted by the portable transceiver due to a dedicated transmitter arrangement, thereby increases the successful rate of a object-attachable tag activation.

Regarding claim 17, Woolley discloses the portable transceiver being integrated in a wearable item (via monitoring device 15 includes a personal digital assistant 270). (See Col. 25, lines 17-23)

Regarding claim 18, Woolley discloses the portable transceiver comprising a data storage for storing the position of the object via (PDA with inherent memory for storage). (See Col. 25 lines 24-30).

8. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woolley in view of Garber as applied to claims 1 and 12 above, and further in view of Struble et al. (US 6,433,685).

Regarding claims 3 and 13, the combination of Woolley and Garber disclose the structural elements of the claimed invention but fail to disclose the use of a transceiver identification code in an object related signal.

Struble teaches the use of transmitting identification codes from a transceiver to a detector when the detector requests for identification of an article the transceiver is attached to. (See Col. 1 lines 35-46 and Col. 2 lines 11-27).

From the teachings of Struble, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Woolley and Garber to include the use of an identification code in the signal transmitted to the first base station in order to distinguish the transceiver transmitting the signal from other transceivers, thereby identifying the transceiver.

9. Claims 5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woolley in view of Garber as applied to claims 1 and 12 above, and further in view of Lee (RFID Tag Reader Uses FSK To Avoid Collisions, Electronic Design, October 28, 1999).

Regarding claims 5 and 15, the combination of Woolley and Garber disclose the structural elements of the claimed invention but fail to disclose the use of signal transmission collision-avoidance mechanism on the portable transceiver.

Lee teaches the use of a signal transmission collision-avoidance mechanism on a portable transceiver (RFID reader); the mechanism works by using a "gap pulse" when the portable transceiver is interrogating multiple tags, when an RFID tag recognizes the gap pulse, it doesn't transmit data until it counts a number that's generated by a random number counter. Each tag will finish counting the number in a different time.

From the teachings of Lee, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Woolley and Garber to include a signal transmission collision-avoidance mechanism on the portable transceiver to read object-attachable tags without data corruption caused by collisions, thereby improving the performance of interrogation on object-attachable tags.

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Woolley in view of Garber, and further in view of Shawhan (3,930,220).

The combination of Woolley and Garber disclose the structural elements of the claimed invention but fail to disclose transmitting of signals using different frequencies.

Shawhan teaches the concept of avoiding signal interference between multiple transmitters by shifting the carrier frequency of the transmitters. (See the Abstract).

From the teachings of Shawhan, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Woolley and Garber to transmit in different carrier frequencies in order to avoid interference between transmissions, thereby reduces undesired signal loss.

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Woolley in view of Garber, and further in view of Lee (RFID Tag Reader Uses FSK To Avoid Collisions, Electronic Design, October 28, 1999).

Regarding claim 8, the combination of Woolley and Garber disclose the structural elements of the claimed invention but fail to disclose the use of synchronized delay to avoid signal interference.

Lee teaches the use of a signal transmission collision-avoidance mechanism to avoid signal interference by letting object RFID tags transmit at different time slots.

From the teachings of Lee, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Woolley and Garber to transmit at multiple time delays to avoid signal interference, thereby reducing signal loss.

12. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Woolley in view of Garber as applied to claim 1 above, and further in view of McDonald (US 2001/0040513).

Regarding claim 10, the combination of Woolley and Garber disclose the structural elements of the claimed invention but fail to disclose the use of triangulation measurement utilizing three base stations to locate an object-attachable tag.

McDonald teaches the concept of locating an article using a plurality of receivers and determining the location of the article by using triangulation techniques on the receivers. (See paragraph 68)

From the teachings of McDonald, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the combination of Woolley and Garber to include the use of multiple base stations to utilize triangulation techniques to locate an article, thereby making location of articles with object-attachable tags more accurate.

Response to Arguments

13. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with respect to claims 19-21 have been fully considered but they are not persuasive. In order for the transmitter in the portable transceiver to send any information regarding tags to the base station, the portable transceiver must have received all the information required from the tag before any data is transmitted to the base station. And if the portable transceiver did receive all the information required from the tag, then the receiver on the portable transceiver must have stopped receiving before any transmission of data.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Hang Jiang whose telephone number is 571-270-3024. The examiner can normally be reached on M-F 7:30 am to 5:30 pm alternate fridays off.

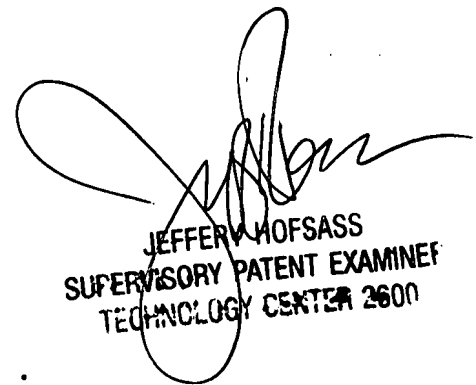
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on 571-272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Art Unit: 2612

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YHJ



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